

ABSTRACT

A production method is provided in which Group-III-element nitride single crystals that have a lower dislocation density and a uniform thickness
5 and are transparent, high quality, large, and bulk crystals can be produced with a high yield. The method for producing Group-III-element nitride single crystals includes: heating a reaction vessel containing at least one metal element selected from the group consisting of an alkali metal and an alkaline-earth metal and at least one Group III element selected from the
10 group consisting of gallium (Ga), aluminum (Al), and indium (In) to prepare a flux of the metal element; and feeding nitrogen-containing gas into the reaction vessel and thereby allowing the Group III element and nitrogen to react with each other in the flux to grow Group-III-element nitride single crystals, wherein the single crystals are grown, with the flux being stirred by
15 rocking the reaction vessel, for instance.